UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/733,174	12/11/2003	Masaaki Oka	SCES 20.808 (100809-00230	5945

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KATTEN MUCHIN ROSENMAN LLP 575 MADISON AVENUE NEW YORK, NY 10022-2585	ARCOS, CAROLINE H

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 February 2009*.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-11* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *11 December 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☒ Some * c)☐ None of:

      1.☒ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

1.   Claims 1-11 are pending for examination.

Claim Rejections - 35 USC § 112

2.   The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-11 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claims 1 and 7 contains subject matter which was not described in the specification for the following limitations "operating environments <u>associated with software tasks</u>" and "<u>estimates a type</u> of processing". The Examiner could not locate the details of the amended limitations within the specification.

3.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4.   Claims 1-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

    a.   The following terms lacks antecedent basis:

          i.   The entire processing- claims 1&7.

    b.   The claim language in the following claims are not clearly understood:

          i.   As per claim 1, lines 5-6, it is unclear what is meant by "operating environment" and what is the relation between the software tasks and operating environment. Lines 7, it is unclear how the type is estimated and what are the criteria for estimating the type of processing and a load of the entire processing.

          ii.   As per claim 3, lines 1-3, it is unclear what the criteria are for selectively connect the external device to one of the component-processors or the component- processors to each other.

          iii.   As per claim 4, it has the same deficiency as claim 3.

          iv.   As claim 7, it has same deficiency as claim 1.

Claim Rejections - 35 USC § 103

2.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3.   Claims 1-3 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Macias et al. (US 5,886,537), in view of Arnold et al. (US 5,175,837), in view of Rawson, III (US

7,318,164 B2) and further in view of Takeda et al. (US 2002/0068626 A1).

4.   As per claim 1, Macias teaches the invention substantially as claimed including a signal

processing device, comprising:

        a general-purpose signal processor formed of an assembly of plural component-

processors, each of the component-processors being capable of operating under operating

environments associated with software tasks independent of other component-processors (abs.,

lines 1-3; col. 2, lines 15-44; col. 3, lines 16-24; col. 3, lines 32-42); and

        being capable of arbitrarily changing the operating environments of each of the

component-processors in accordance with a demand for signal processing and changes the

operating environment of each of the components-processors (col. 3, lines 16-24; col. 5, lines 2-

20).

5.   Macias doesn't explicitly teach a management processor being capable of arbitrarily

changing the operating environments of each of the component-processors in accordance with a

demand for signal processing, wherein the management processor estimates a type of processing

and a load of the entire processing, and determines based on the estimation a number of

component-processors to operate.

6.   However, Arnold teaches a management processor being capable of arbitrarily changing

the operating environments of each of the component-processors in accordance with a demand

for signal processing (col. 5, lines 45-65; col. 6, lines 58-63).

7.   It would have been obvious to one of ordinary skill in the art at the time the invention

was made to combine Macias and Arnold because Arnold teaching of a management processor

being capable of arbitrarily changing the operating environments of each of the component-

processors in accordance with a demand for signal processing would improve Macias system

performance by having a management processor that facilitate the communication in the system

and regulate demand for signal processing of each of the component processors.

8.   The combined teaching of Macias and Arnold doesn't explicitly teach the management

processor estimates a type of processing and a load of the entire processing, and determines

based on the estimation a number of component-processors to operate.

9.   However, Rawson teaches the management processor estimates a load of the entire

processing, and determines based on the estimation a number of component-processors to

operate (Col. 2, lines 9-16)

10.   It would have been obvious to one of ordinary skill in the art at the time the invention

was made to combine the teaching of Macias, Arnold and Rawson because Rawson teaching of

the management processor estimates a load of the entire processing, and determines based on the

estimation a number of component-processors to operate would improve system performance

and energy consumption.

11.   The combined teaching of Macias, Arnold and Rawson doesn't explicitly teach estimates

a type of processing. However, Takeda teaches estimating a type of processing (par. [0049]; par.

[0050]; par. [0051]; par. [0052]).

12.   It would have been obvious to one of ordinary skill in the art at the time the invention

was made to combine Macias, Arnold, Rawson and Takeda because Takeda teaching of

estimating the type of processing would improve system performance since depending on the

type of processing, the task will be sent to the right processor to process it (e.g. sound will be

sent to sound processor unit and video will be sent to graphic processor).

13.   As per claim 2, Macias teaches swap one of the component-processors which receives the

signal to be processed which is inputted through the input/output interface or outputs the

processed signal in accordance with a demand for signal processing (abs., lines 1-3; col. 3, lines

16-24; col. 3, lines 32-42; col. 5, lines 2-20).

an input/output interface for receiving a signal to be processed inputted from an external device

or one of the component-processors, and for outputting a processed signal to the external

device or one of the component-processors (fig. 1; col. 3, lines 31-52).

14.   Macias doesn't explicitly teach that the management processor controls the input/output

interface. However, Arnold teaches the management processor controls the input/output interface

(col. 5, lines 45-65; col. 6, lines 58-63).

15.   As per claim 3, Macias teaches that the input/output interface includes a cross bus switch that can selectively connect the external device to one of the component-processors, or the component-processors to each other (fig. 1).

16.   As per claim 6, Arnold teaches the case including a first connection interface being connectable to a device that provides a demand for signal processing to the management processor, and a second connection interface being connectable to the external device that delivers a signal with respect to the input/output interface (fig. 1, 18, 20A).

17.   The combined teaching of Macias, Arnold, Rawson and Takeda doesn't explicitly teach that the general- purpose signal processor, the management processor and the input/output interface are disposed in a single case. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to conclude form the combined teaching of Macias, Arnold, Rawson and Takeda that the processors exist in one system; it will be well known in the art to enclose the system in a single case which facilitate portability (see Takeda Fig. 1).

18.   Claims 4-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Macias et al. (US 5,886,537), in view of Arnold et al. (US 5,175,837), in view of Rawson, III (US 7,318,164 B2) and further in view of Takeda et al. (US 2002/0068626 A1).as applied to claim 2 above and

further in view of Iwase et al (US. 5,926,583).

19.   As per claim 4, the combined teaching of Macias, Arnold, Rawson and Takeda doesn't explicitly teach that the input/output interface includes a multiple bus that can selectively connect the external device to one of the component-processors, or the component-processors to each other (Macias: fig. 1; col. 5, lines 30-37; Takeda, fig.1).

20.   However, Iwase teaches that the input/output interface includes a multiple bus that can selectively connect the external device to one of the component-processors, or the component-processors to each other (col. 31, lines 20-32).

21.   It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Macias, Arnold, Rawson , Takeda and Iwase because Iwase teaching of selectively connect the external device to one of the component-processors, or the component-processors to each other would improve system performance and communication efficiency by regulating the connection between the component-processors.

22.   As per claim 5, the combined teaching of Macias, Arnold, Rawson and Takeda doesn't explicitly teach that a local memory is disposed on each of the component-processors, said local memory stores a signal to be processed or a signal processed result by the

component-processors until the signal to be processed or the signal processed result becomes available to be outputted to the input/output interface.

23.   However, Iwase teaches that a local memory is disposed on each of the component-processors, said local memory stores a signal to be processed or a signal processed result by the component-processors until the signal to be processed or the signal processed result becomes available to be outputted to the input/output interface (col. 31, lines 33-45).

24.   It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Macias, Arnold and Iwase because Iwase teaching of having local memory on each of the component-processor and said local memory stores a signal to be processed or a signal processed result by the component-processors until the signal to be processed or the signal processed result becomes available to be outputted to the input/output interface would improve system performance and efficiency in processing demand signal by storing the result in the memory to be retrieved whenever needed.

25.   Claims 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Macias et al. (US 5,886,537), in view of McNeill et al. (US 4, 876, 643), in view of Rawson, III (US 7,318,164 B2) and further in view of Takeda et al. (US 2002/0068626 A1).

26.   As per claim 7, Macias teaches an entertainment device, comprising:
          a signal processing device including a general-purpose signal processor, and

management processor and an input/output interface (col. 3, lines 32-42; fig. 1; fig. 3);

wherein said general-purpose signal processor is formed of an assembly of plural

component-processors (Abs., lines 1-3; col. 3, lines 17-25),

wherein each of the component-processors can operate in parallel under operating

environments associated with software tasks independent of other component-processors (abs.,

lines 1-3; col. 3, lines 16-24; col. 3, lines 32-42);

wherein the input/output interface inputs a signal to be processed from an external device

or one of the component-processors, and outputs a processed signal to the external device or one

of the component-processors(col. 3, lines 17-25; col. 3,lines 53-63; col. 5, lines 30-38; fig. 1; col.

3, lines 31-52).

swap one of the component-processors which receives the signal to be processed which is

inputted through the input/output interface or outputs the processed signal in accordance with the

demand for signal processing(abs., lines 1-3; col. 3, lines 16-24; col. 3, lines 32-42; col. 5, lines

2-20) and changes the operating environment of each of the component-processors. (col. 3, lines

16-24; col. 5, lines 2-20).

27.   Macias doesn't explicitly teach that a signal processing device including a management

processor and a main processor that provides a demand for signal processing to the signal

processing device, wherein the management processor sets the operating environments of each of

the component-processors in accordance with a demand for signal processing which is provided

from the main processor, and controls the input/output interface, and wherein the manager

processor estimates a type of processing and a load of the entire processing, and determines

based on the determination a number of component- processors to operate.

28.   However, McNeill teaches a signal processing device including a management processor

and a main processor that provides a demand for signal processing to the signal processing

device (abs., lines 3-9; fig. 2, 210 and 212; col. 3, lines 50-59)

wherein the management processor sets the operating environments of each of the

component-processors in accordance with a demand for signal processing which is provided

from the main processor, and controls the input/output interface (fig. 2, 212; col. 10, lines 5-30).

29.   It would have been obvious to one of ordinary skill in the art at the time the invention

was made to combine the teaching of Macias and McNeill because McNeill teaching of

management processor that sets the environment for the component- processor based on the

signal received from the main processor would improve Macias system performance and

efficiency by creating a hierarchy of commands and roles for every processor which facilitate the

communication between the processors.

30.   The combined teaching of Macias and McNeill doesn't explicitly teach the management

processor estimates a type of processing and a load of the entire processing, and determines

based on the estimation a number of component-processors to operate.

31.   However, Rawson teaches the management processor estimates a load of the entire

processing, and determines based on the estimation a number of component-processors to

operate (Col. 2, lines 9-16)

32.   It would have been obvious to one of ordinary skill in the art at the time the invention

was made to combine the teaching of Macias, McNeill and Rawson because Rawson teaching of

the management processor estimates a load of the entire processing, and determines based on the

estimation a number of component-processors to operate would improve system performance

and energy consumption.

33.   The combined teaching of Macias, McNeill and Rawson doesn't explicitly teach

estimates a type of processing. However, Takeda teaches estimating a type of processing (par.

[0049]; par. [0050]; par. [0051]; par. [0052]).

34.   It would have been obvious to one of ordinary skill in the art at the time the invention

was made to combine Macias, McNeill and Rawson and Takeda because Takeda teaching of

estimating the type of processing would improve system performance since depending on the

type of processing, the task will be sent to the right processor to process it (e.g. sound will be

sent to sound processor unit and video will be sent to graphic processor).

35.   As per claim 8, Takeda teaches a network interface that enables a connection with a

computer network, and a storage means that stores digital information readable by a computer,

wherein the main processor controls the network interface to acquire the digital information from

an external device, stores the acquired digital information in the storage means, and provides the

stored digital information and a demand for signal processing based on the digital information to

the management processor of the signal processing device to constitute operating environments

for entertainment processing the contents of which are determined in accordance with the digital

information (Fig. 1; fig. 2; par. [0033]; par. [0035]; par. [0045]; par. [0046]; par. [0047] ; par.

[0052]).

36.   As per claim 9, McNeill teaches the main processor constructs the operating

environments for entertainment processing on one or more of the component-processors through

the management processor, and, after constructing the operating environments,

said main processor reconstructs said operating environments to new operating environments

upon receipt of another digital information which differs from said digital information (col. 3,

lines 50-60; col. 4, lines 35-53).

37.   Claims 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Macias et

al. (US 5,886,537), in view of McNeill et al. (US 4, 876, 643), in view of Rawson, III (US

7,318,164 B2) and in view of Takeda et al. (US 2002/0068626 A1), as applied to claim 8 above

and further in view of Gorgone et al. (US 2003/0200249 A1).

38.   As per claim 10, The combined teaching of Macias, McNeill and Rawson and Takeda

doesn't explicitly teach that the digital information comprises plural kinds of application

programs that can execute required functions, respectively, and wherein the management

processor assigns any of the functions to the corresponding component-processors, and reads the

application program for executing the assigned function from the storage means, and executes

the application program.

39.   However, Gorgone teaches plural kinds of application programs that can execute required functions, respectively, and wherein the management processor assigns any of the functions to the corresponding component-processors, and reads the application program for executing the assigned function from the storage means, and executes the application program (Par. [0016]).

40.   It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Macias, McNeill and Rawson , Takeda and Gorgone because Gorgone teaching of processing plurality of application kinds with different function would improve the performance and efficiency and the diversity of processing application and increase the throughput.

41.   As per claim 11, McNeill teaches that each of the component-processors operates only for executing the application program for executing the function assigned to the component-processor until the management processor provides another demand to the component-processor (abs., lines 3-9; col. 3, lines 50-60).

Conclusion

42.   Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).
Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

43.   A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the date of this

final action.

44.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to CAROLINE ARCOS whose telephone number is (571)270-3151.

The examiner can normally be reached on Monday-Thursday 7:00 AM to 5:30 PM.

45.   If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Meng-Ai An can be reached on 571-272-3756. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

46.   Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would

like assistance from a USPTO Customer Service Representative or access to the automated

information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/VAN H NGUYEN/   /Caroline Arcos/
Primary Examiner, Art Unit 2194   Examiner, Art Unit 2195